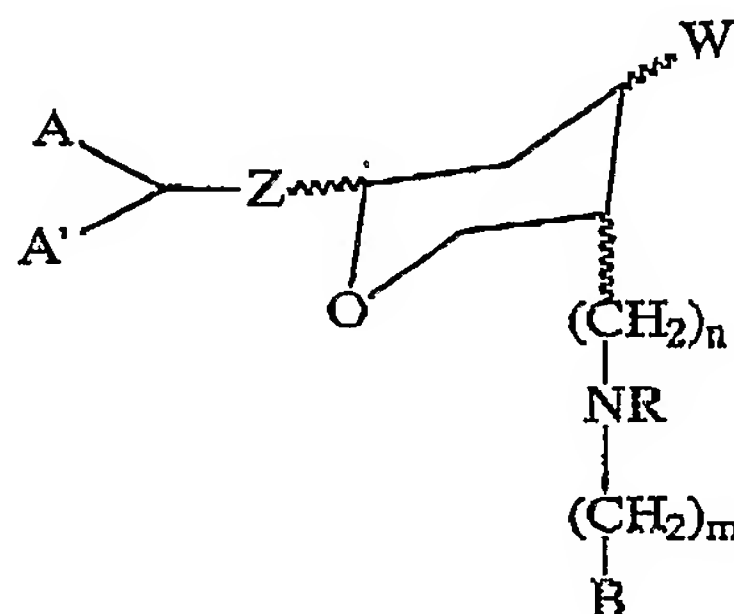


## AMENDED CLAIMS

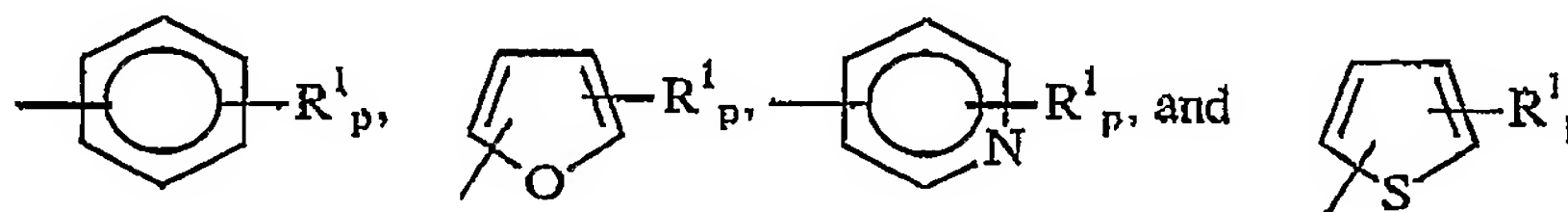
[received by the International Bureau on 10 October 2005 (10.10.2005);  
original claims, 16 and 17 amended; new claims 25-29 added;  
remaining claims unchanged (16 pages)]

- 1                                    1.        A 3,6-substituted pyran group-containing compound having  
2        the structural formula:



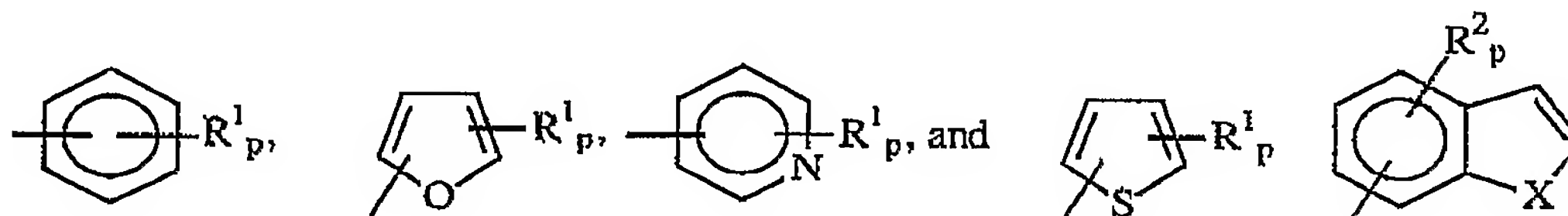
- 3        wherein  
4        A, A', and B are individually selected from the group of optionally substituted C<sub>4</sub>-  
5        C<sub>14</sub> aryl and heteroaryl wherein heteroatoms of heteroaryl A and/or A' are selected  
6        from the group consisting of O, N, and S;  
7        Z is selected from the group consisting of a chemical bond and -Y-(CH<sub>2</sub>)<sub>o</sub>- wherein  
8        Y is NH or O and o is 0, 1, 2, 3, or 4;  
9        R is H or C<sub>1-8</sub> alkyl;  
10       W is selected from the group consisting of hydrogen and -OH; and  
11       n and m individually are 0, 1, 2, 3, or 4, and wherein any carbon of -(CH<sub>2</sub>)<sub>n</sub> may  
12       be substituted by OR<sup>4</sup> wherein R<sup>4</sup> is C<sub>1-8</sub> alkyl, C<sub>2-18</sub> alkylene, or -COOR<sup>5</sup> wherein  
13       R<sup>5</sup> is C<sub>1-18</sub> alkyl or C<sub>2-18</sub> alkylene, and when W is H, B is an optionally substituted  
14       indolyl group, a 4-hydroxybenzyl group, an iodophenyl group, or a 4-aminobenzyl  
15       group,  
16       or a pharmaceutically acceptable derivative or salt thereof.

- 1                                    2.        The compound of claim 1, wherein at least one of A and A'  
2        are selected from the group consisting of:



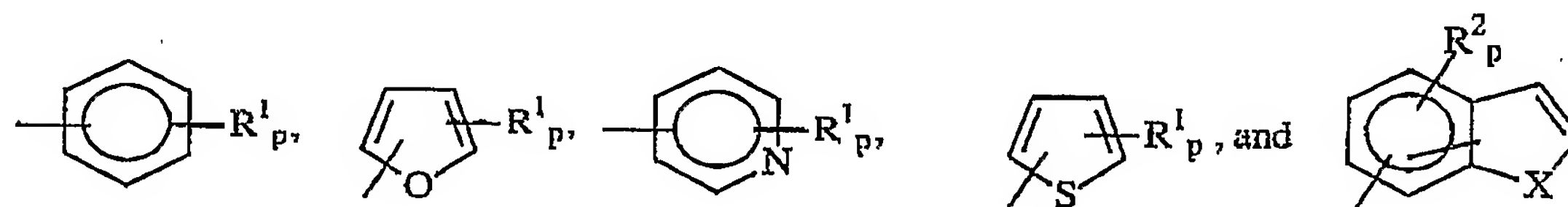
3 where  $R^1$  is selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$   
 4 optionally halogenated alkynyl,  $C_{2-6}$  hydroxyalkynyl, halo, -CN, -COOR, where R  
 5 is  $C_{1-18}$  alkyl,  $C_{5-10}$  cycloalkyl,  $C_{2-18}$  alkenyl, -OH, -NO<sub>2</sub>, -NH<sub>2</sub>, -OR<sup>2</sup> where R<sup>2</sup> is  
 6  $C_{1-8}$  alkyl,  $C_{5-6}$  cycloalkyl, or  $C_{2-8}$  alkenyl.

1 3. The compound of claim 1, wherein B is selected from the  
 2 group



3 where  $R^1$  is selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$   
 4 optionally halogenated alkynyl,  $C_{2-6}$  hydroxyalkynyl, halo, -CN, -COOR, where R  
 5 is  $C_{1-18}$  alkyl,  $C_{5-10}$  cycloalkyl,  $C_{2-18}$  alkenyl, -OH, -NO<sub>2</sub>, -NH<sub>2</sub>, -OR<sup>2</sup> where R<sup>2</sup> is  $C_{1-8}$   
 6 alkyl,  $C_{5-6}$  cycloalkyl, or  $C_{2-8}$  alkenyl; and  
 7 wherein R<sup>2</sup> have the meaning of R<sup>1</sup> and also a 5 or 6 membered heterocycle  
 8 containing 1 or more heteroatoms selected from the group consisting of N, O, and  
 9 S, and wherein X is N, O, or S.

1 4. The compound of claim 2, wherein B is selected from the  
 2 group

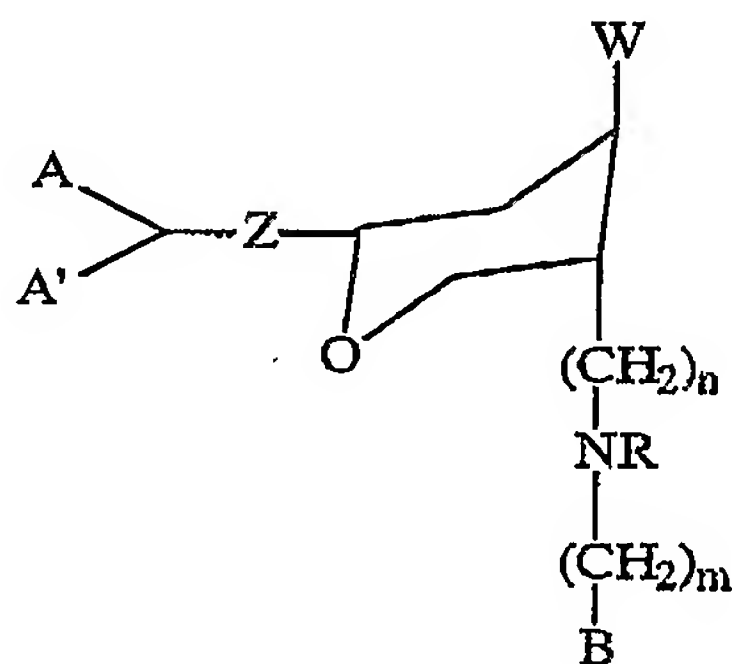


3 where  $R^1$  is selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$   
 4 optionally halogenated alkynyl,  $C_{2-6}$  hydroxyalkynyl, halo, -CN, -COOR, where R

5 is  $C_{1-18}$  alkyl,  $C_{5-10}$  cycloalkyl,  $C_{2-18}$  alkenyl,  $-OH$ ,  $-NO_2$ ,  $-NH_2$ ,  $-OR^2$  where  $R^2$  is  $C_{1-8}$   
 6 alkyl,  $C_{5-6}$  cycloalkyl, or  $C_{2-8}$  alkenyl; and  
 7 wherein  $R^2$  have the meaning of  $R^1$  and also a 5 or 6 membered heterocycle  
 8 containing 1 or more heteroatoms selected from the group consisting of N, O, and  
 9 S, and wherein X is N, O, or S.

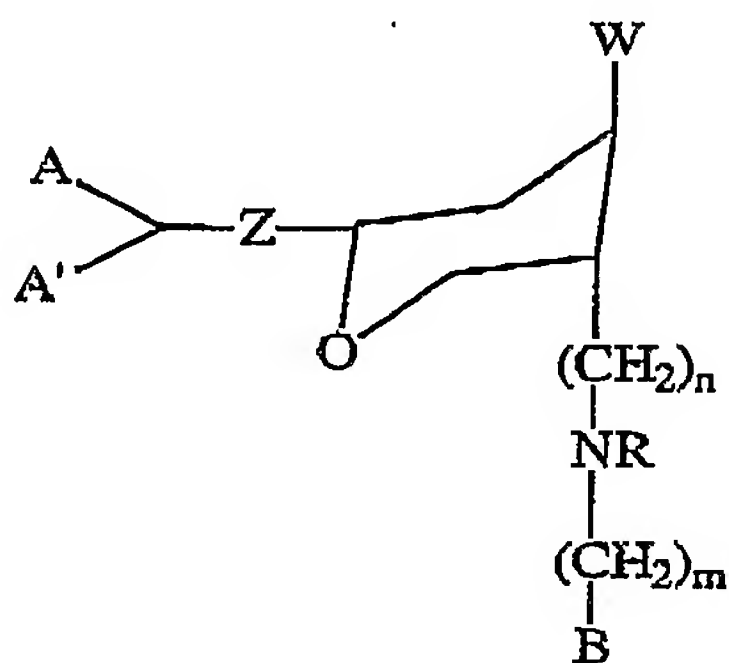
1 5. The compound of claim 3, wherein A and A' are both  
 2 unsubstituted phenyl.

1 6. The compound of claim 1, having the formula



2

1 7. The compound of claim 2, having the formula

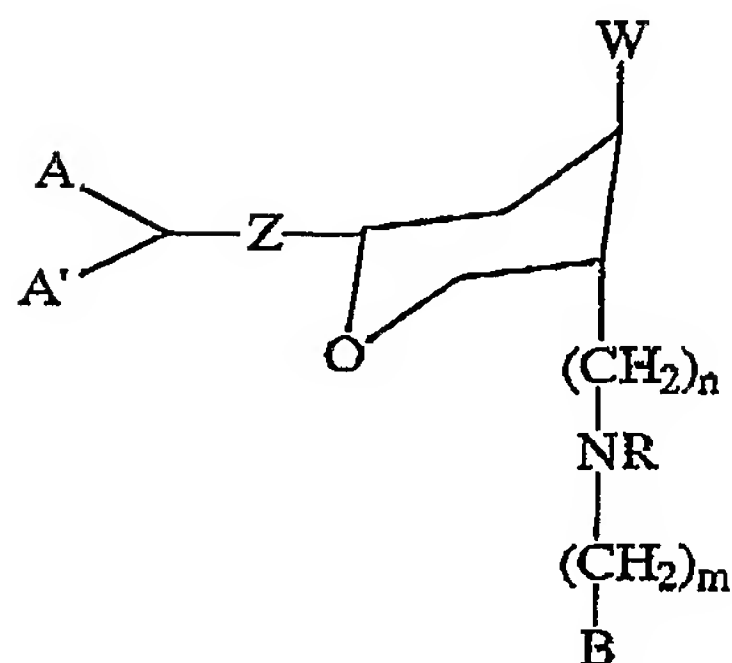


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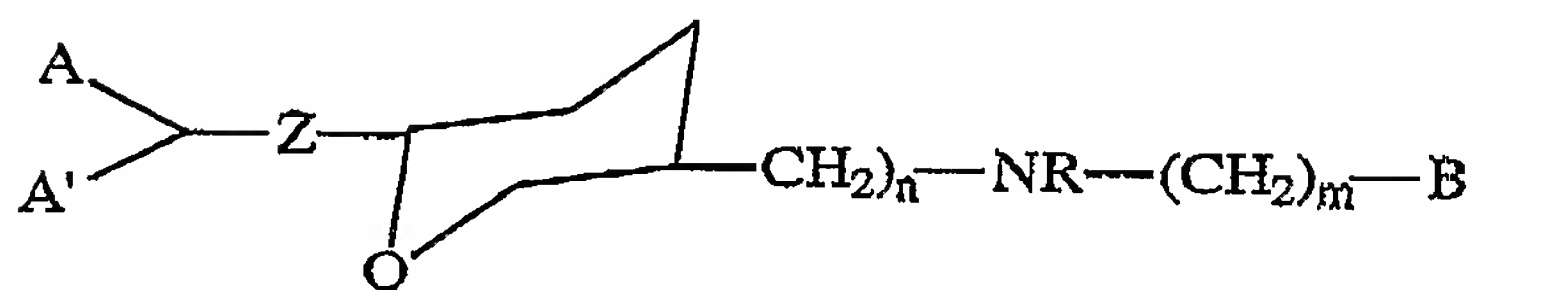
8. The compound of claim 3, having the formula



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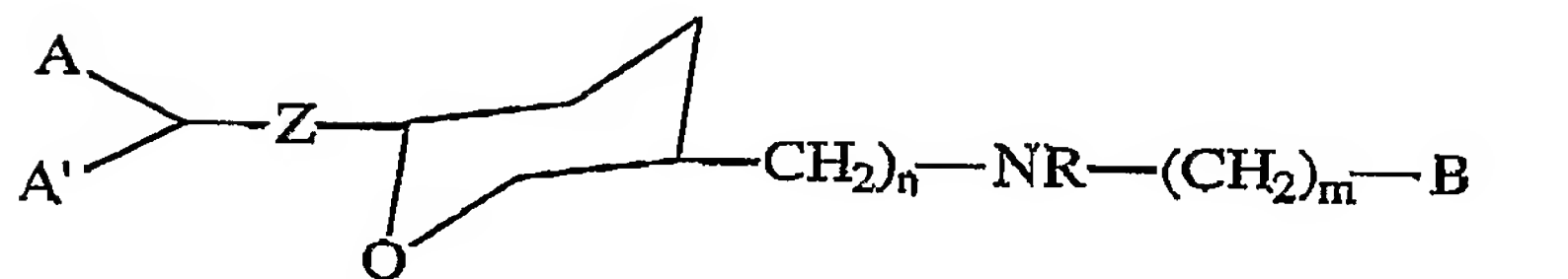
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9. The compound of claim 1, having the formula

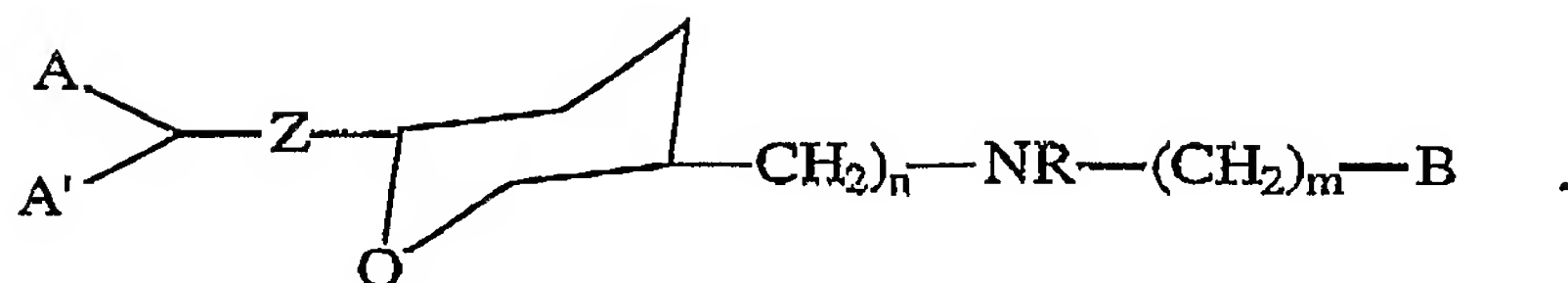


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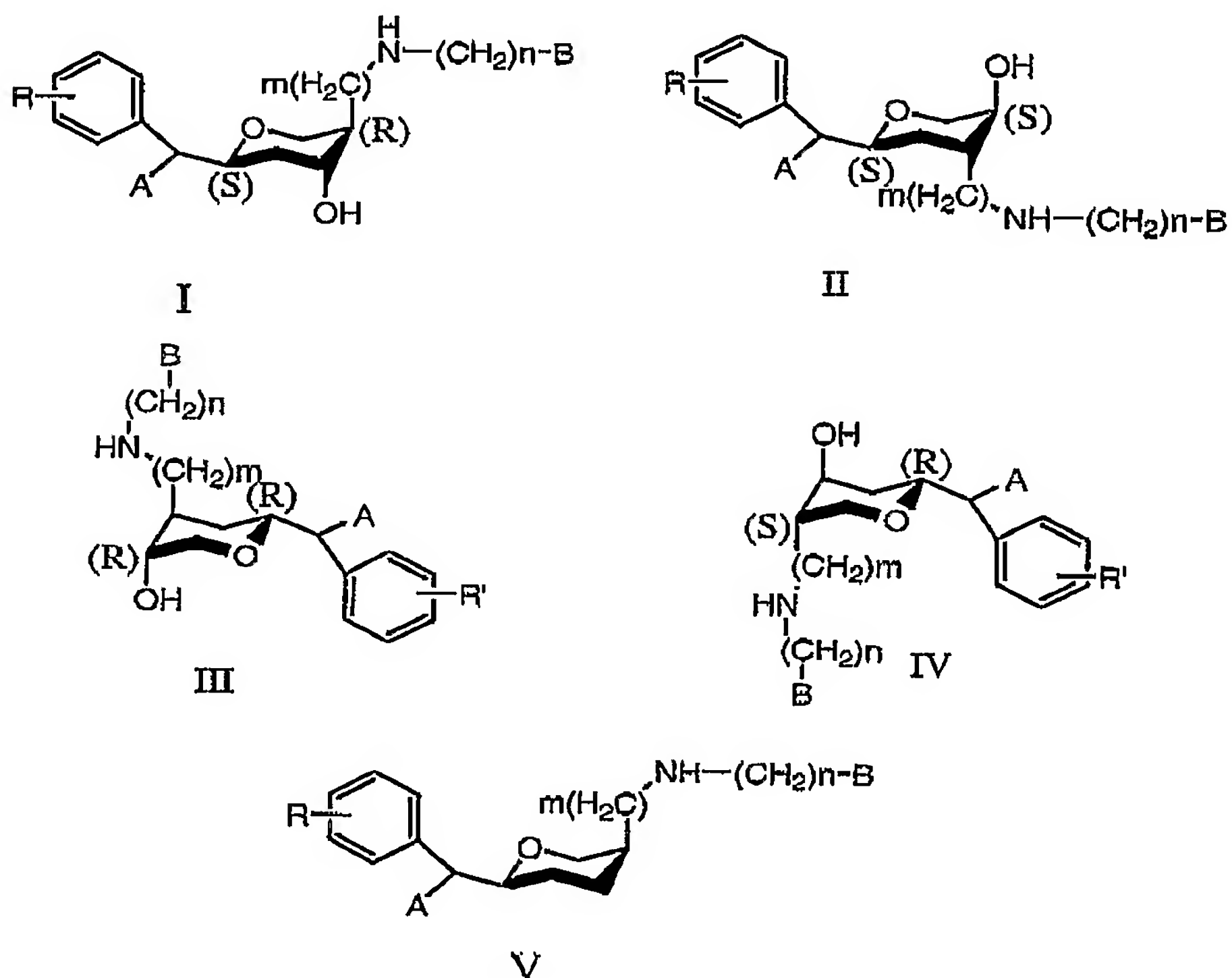
10. The compound of claim 2, having the formula



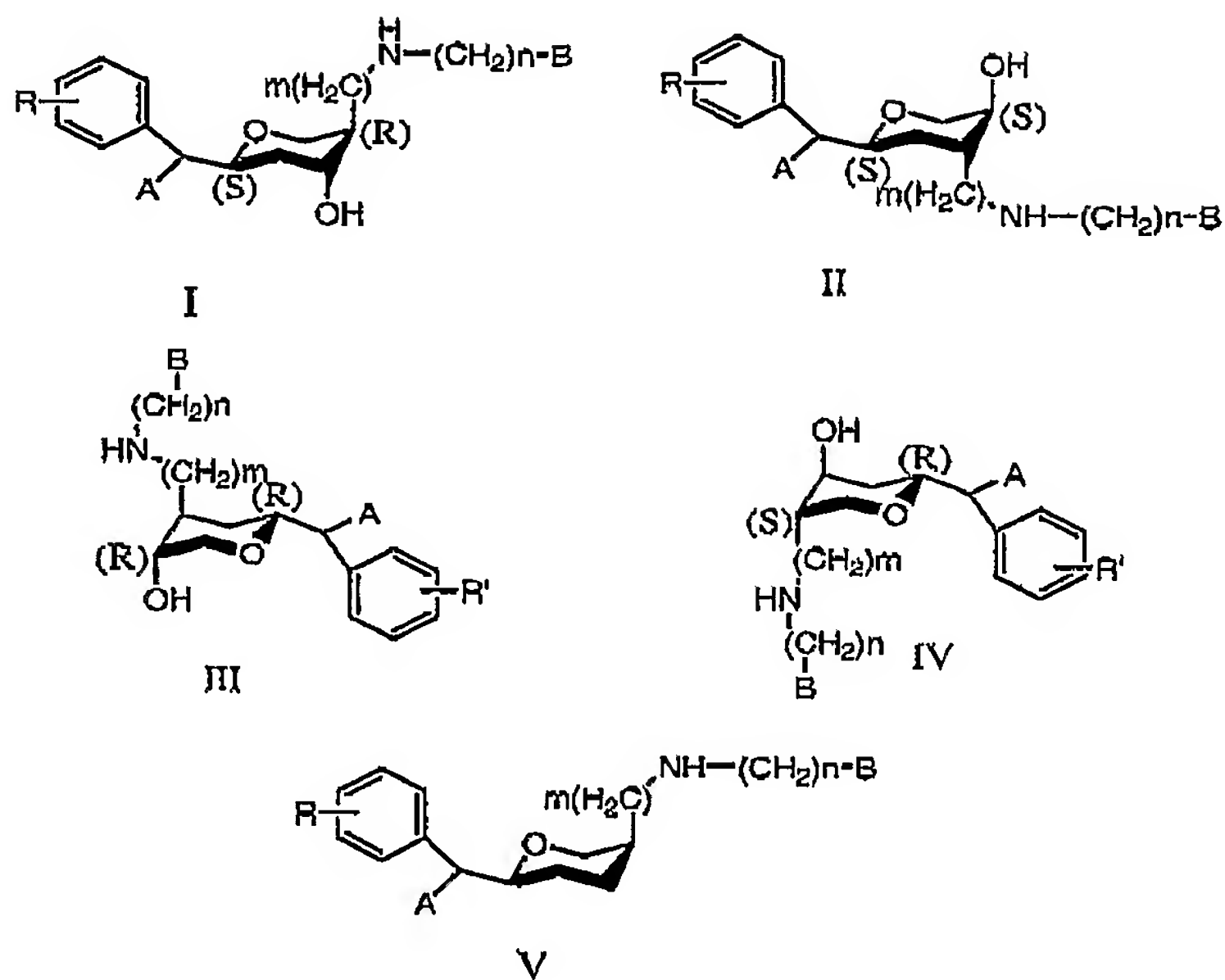
- I 11. The compound of claim 3, having the formula



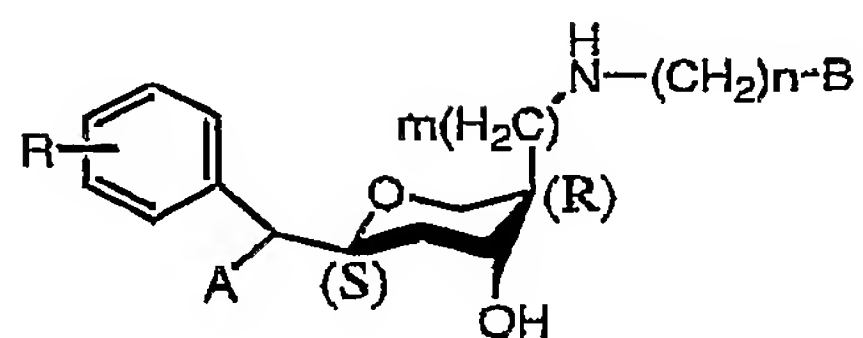
- 1 12. The compound of claim 1, having a formula selected from the  
2 group consisting of:



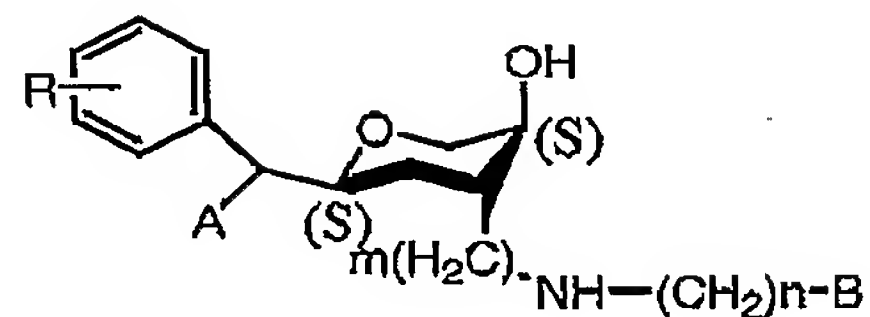
- 1                                      13.      The compound of claim 2, having a formula selected from the  
 2      group consisting of:



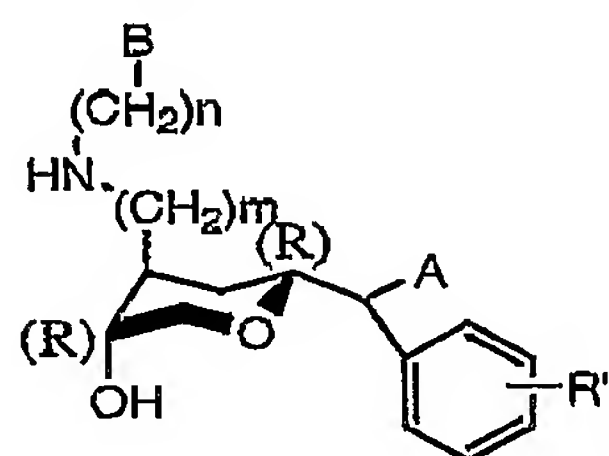
- 1                    14.    The compound of claim 3, having a formula selected from the  
 2    group consisting of:



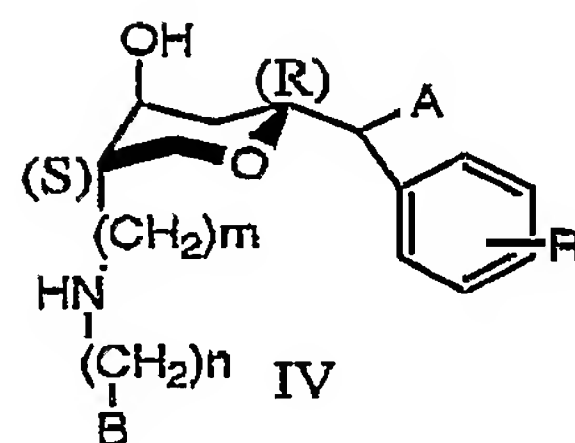
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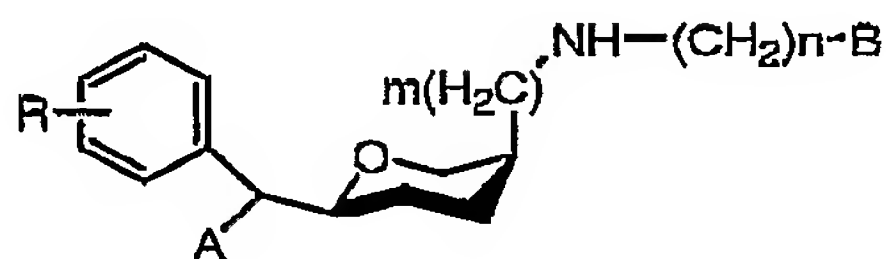
II



III

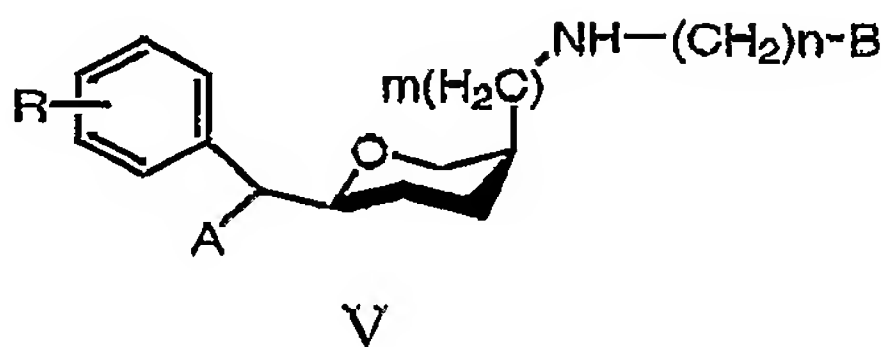
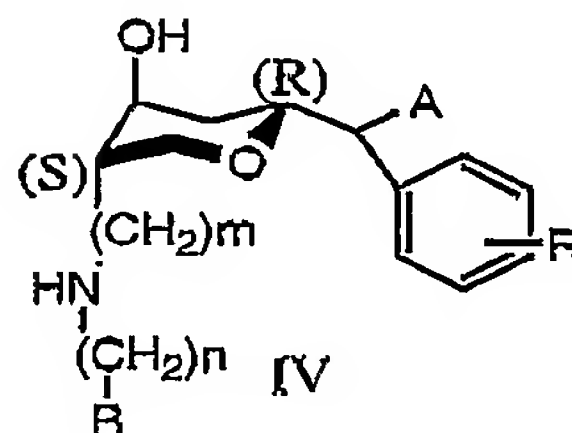
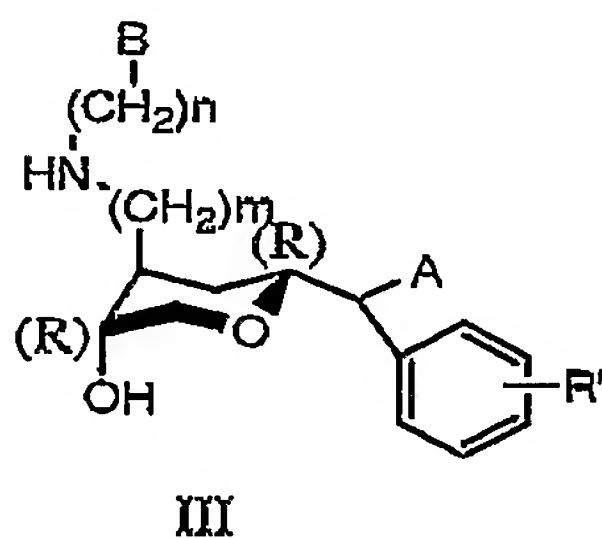
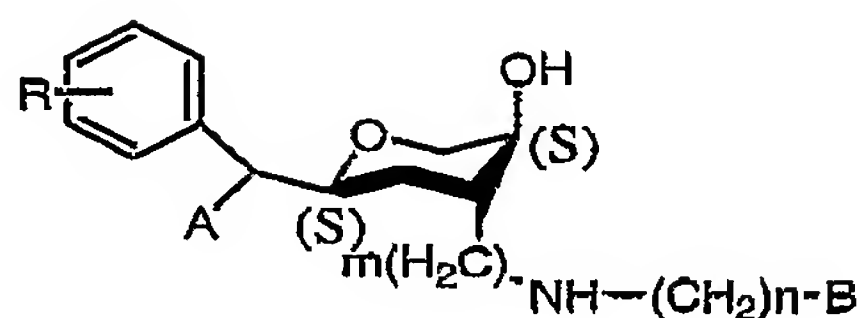
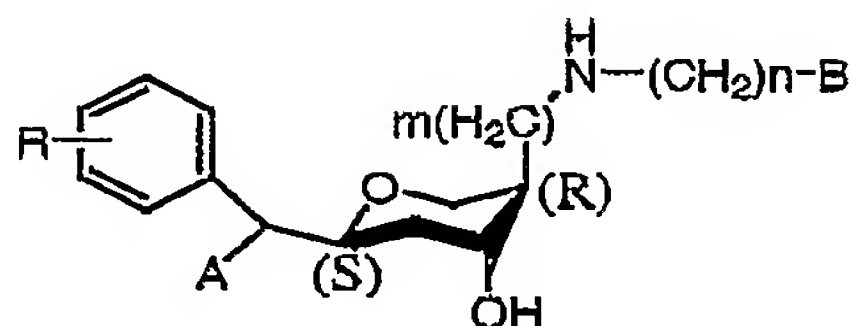


IV



V

1                    15.        The compound of claim 5, having a formula selected from the  
2        group consisting of:



1                                    16.     The compound of claim 1, selected from the group consisting  
2     of:  
3     *cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine;  
4     *cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(1H-iodo-5-ylmethyl)-amine;  
5     *cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(4-amino-benzyl)-amine;  
6     *cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(3,4-dichloro-benzyl)-amine;  
7     (2S, 4R, 5R)-2-benzhydryl-5-(4-methoxy-benzylamino)-tetrahydropyran-4-ol;  
8     (2S, 4R, 5R)-2-benzhydryl-5-(4-fluoro-benzylamino)-tetrahydro-pyran-4-ol;  
9     (2S, 4R, 5R)-2-benzhydryl-5-benzylamino-tetrahydro-pyran-4-ol;  
10    (2S, 4R, 5R)-2-benzhydryl-5-(2,4-dimethoxy-benzylamino)-tetrahydropyran-4-ol;



- 11 (2S, 4R, 5R)-2-benzhydryl-5-(3,5-dimethoxy-benzylamino)-tetrahydropyran-4-ol;  
12 (2S, 4R, 5R)-2-benzhydryl-5-(4-hydroxy-benzylamino)-tetrahydropyran-4-ol;  
13 (2S, 4R, 5R)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-4-ol;  
14 (2R, 4S, 5S)-2-benzhydryl-5-(4-hydroxy-benzylamino)-tetrahydro-pyran-4-ol;  
15 (2R, 4S, 5S)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-4-ol;  
16 *cis*-(3S, 6S)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine; and  
17 *cis*-(3R, 6R)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine.

1 17. The compound of claim 1, selected from the group consisting  
2 of:

- 3 (2S, 4R, 5R)-2-benzhydryl-5-(4-methoxy-benzylamino)-tetrahydropyran-4-ol;  
4 (2S, 4R, 5R)-2-benzhydryl-5-(4-fluoro-benzylamino)-tetrahydro-pyran-4-ol;  
5 (2S, 4R, 5R)-2-benzhydryl-5-benzylamino-tetrahydro-pyran-4-ol;  
6 (2S, 4R, 5R)-2-benzhydryl-5-(2,4-dimethoxy-benzylamino)-tetrahydropyran-4-ol;  
7 (2S, 4R, 5R)-2-benzhydryl-5-(3,5-dimethoxy-benzylamino)-tetrahydropyran-4-ol;  
8 (2S, 4R, 5R)-2-benzhydryl-5-(4-hydroxy-benzylamino)-tetrahydropyran-4-ol;  
9 (2S, 4R, 5R)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-4-ol;  
10 (2R, 4S, 5S)-2-benzhydryl-5-(4-hydroxy-benzylamino)-tetrahydro-pyran-4-ol;

- 11 (2R, 4S, 5S)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-4-ol;  
12 *cis*-(3S, 6S)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine; and  
13 *cis*-(3R, 6R)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine.

1 18. A method of reducing monoamine reuptake in a mammalian  
2 species, comprising administering a binding amount of a monoamine receptor binder  
3 comprising a compound of claim 1.

1 19. A method of reducing monoamine reuptake in a mammalian  
2 species, comprising administering a binding amount of a monoamine receptor binder  
3 comprising a compound of claim 2.

1 20. A method of reducing monoamine reuptake in a mammalian  
2 species, comprising administering a binding amount of a monoamine receptor binder  
3 comprising a compound of claim 12.

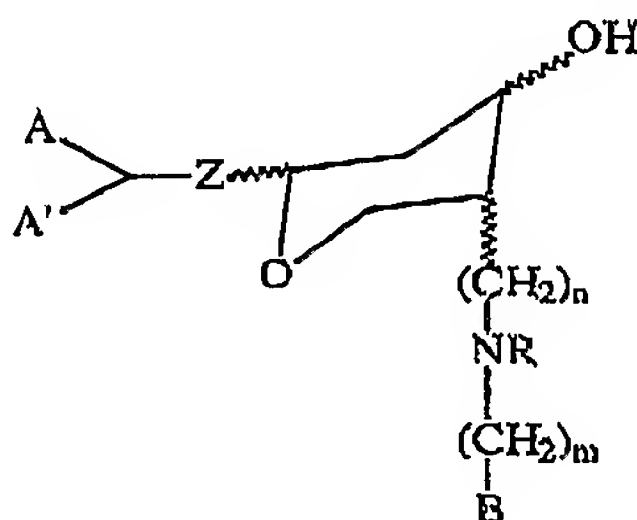
1 21. A method for the treatment of depression, comprising  
2 administering to a patient exhibiting signs of depression, a compound of claim 1 in  
3 an amount effective to inhibit reuptake of serotonin at the SERT and norepinephrine  
4 at the NET.

1 22. The method of claim 21 wherein the compound exhibits  
2 greater inhibition of serotonin and norepinephrine reuptake than of dopamine  
3 reuptake.

1 23. A method for the treatment of depression, comprising  
2 administering to a patient exhibiting signs of depression, a compound of claim 1 in  
3 an amount effective to inhibit norepinephrine reuptake at the NET.

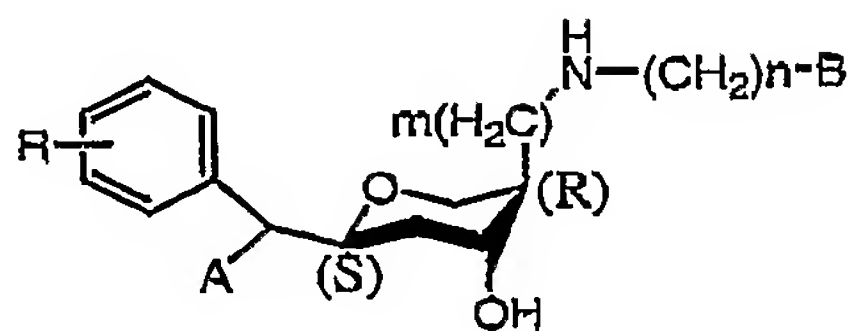
1                    24.    The method of claim 23 wherein said compound exhibits  
 2    higher norepinephrine reuptake inhibition than serotonin reuptake inhibition and  
 3    dopamine reuptake inhibition.

1                    25.    1.    A 3,6-substituted pyran group-containing compound  
 2    having the structural formula:

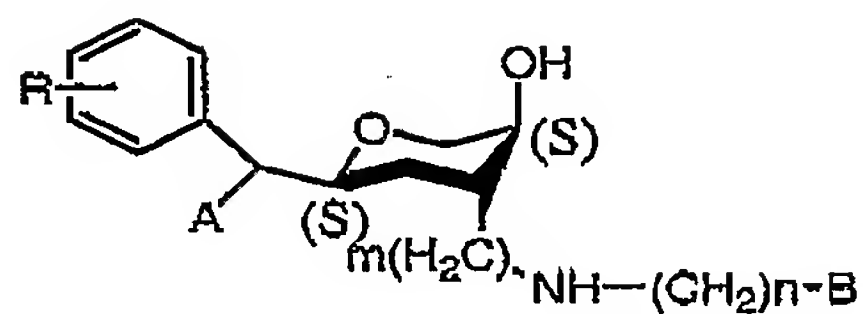


3    wherein  
 4    A, A', and B are individually selected from the group of optionally substituted C<sub>4</sub>-  
 5    C<sub>14</sub> aryl and heteroaryl wherein heteroatoms of heteroaryl A and/or A' are selected  
 6    from the group consisting of O, N, and S;  
 7    Z is selected from the group consisting of a chemical bond and -Y-(CH<sub>2</sub>)<sub>o</sub>- wherein  
 8    Y is NH or O and o is 0, 1, 2, 3, or 4;  
 9    R is H or C<sub>1-8</sub> alkyl;  
 10    n and m individually are 0, 1, 2, 3, or 4, and wherein any carbon of -(CH<sub>2</sub>)<sub>n</sub> may be  
 11    substituted by OR<sup>4</sup> wherein R<sup>4</sup> is C<sub>1-8</sub> alkyl, C<sub>2-18</sub> alkylene, or -COOR<sup>5</sup> wherein R<sup>5</sup>  
 12    is C<sub>1-18</sub> alkyl or C<sub>2-18</sub> alkylene,  
 13    or a pharmaceutically acceptable derivative or salt thereof.

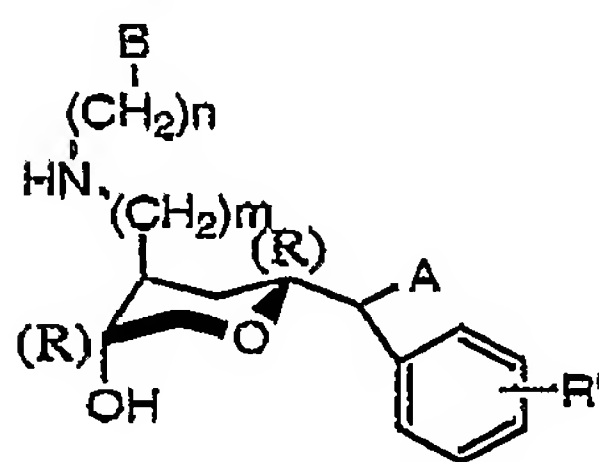
- 1                    26.    The compound of claim 25, having a formula selected from  
 2    the group consisting of:



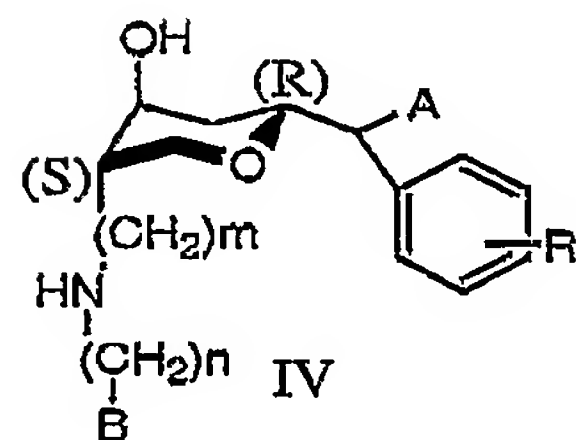
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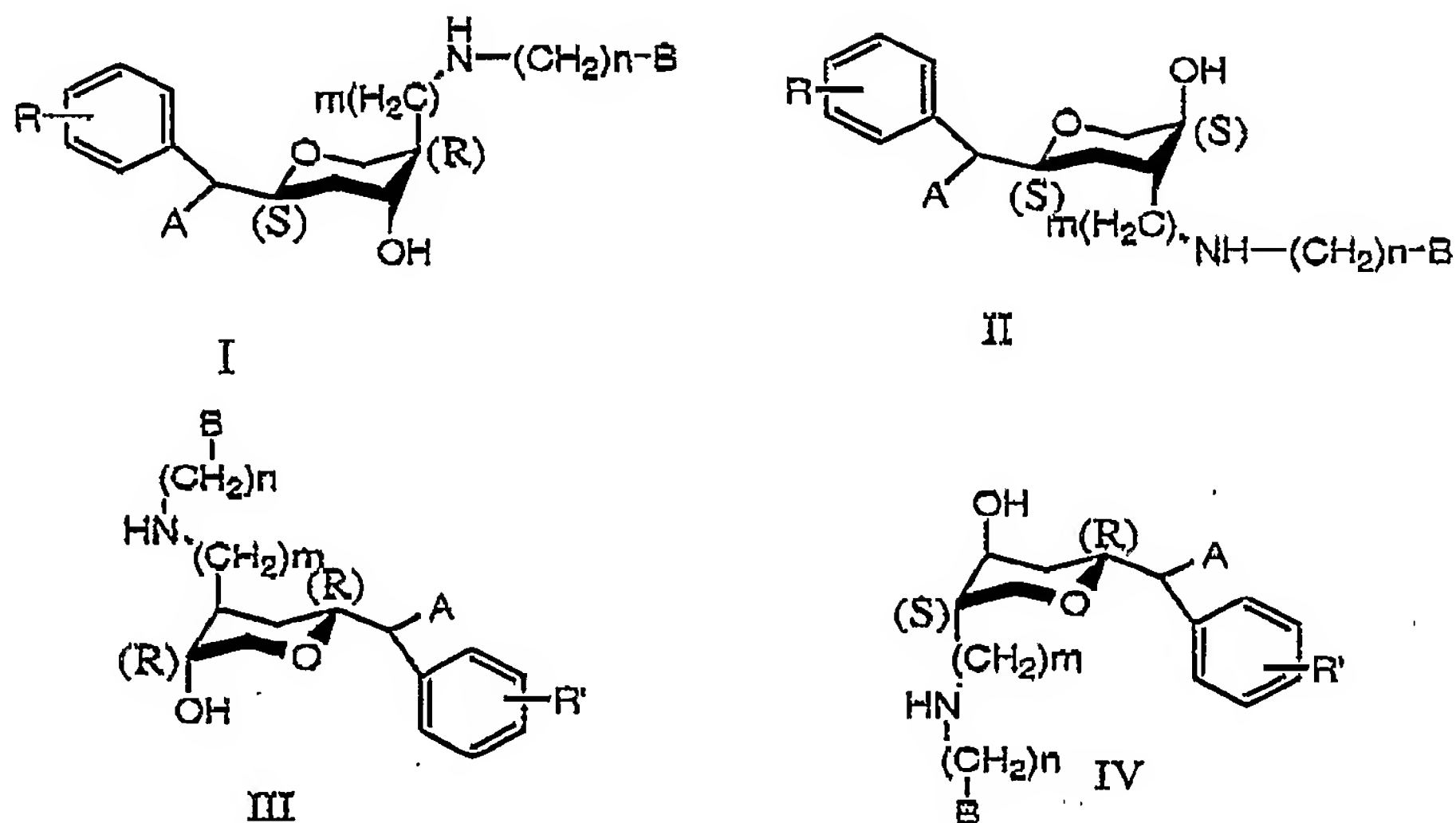


III

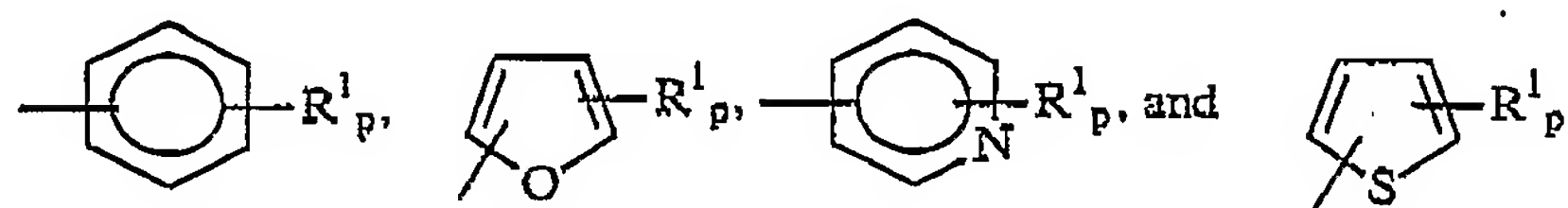


IV

1                    27.     The compound of claim 25, having a formula selected from  
2     the group consisting of:

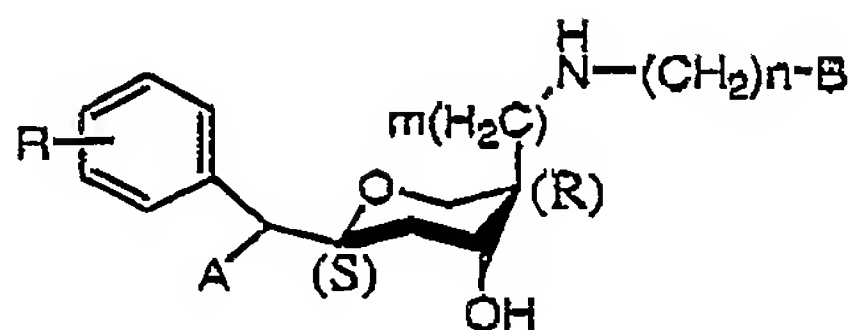


3 wherein A is selected from the group consisting of:

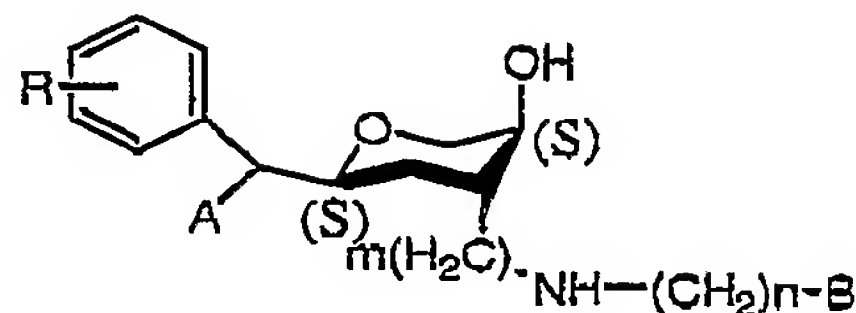


4 where R<sup>1</sup> is selected from the group consisting of C<sub>1-4</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub>  
5 optionally halogenated alkynyl, C<sub>2-6</sub> hydroxyalkynyl, halo, -CN, -COOR, where R  
6 is C<sub>1-18</sub> alkyl, C<sub>5-10</sub> cycloalkyl, C<sub>2-18</sub> alkenyl, -OH, -NO<sub>2</sub>, -NH<sub>2</sub>, -OR<sup>2</sup> where R<sup>2</sup> is C<sub>1-8</sub>  
7 alkyl, C<sub>5-6</sub> cycloalkyl, or C<sub>2-8</sub> alkenyl.

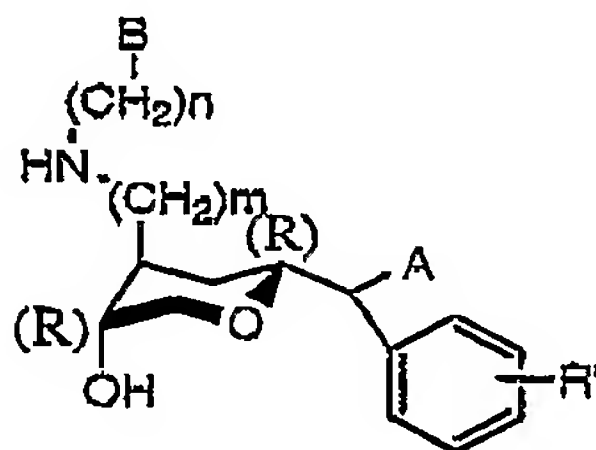
- 1                    28.    The compound of claim 25,, having a formula selected from  
 2    the group consisting of:



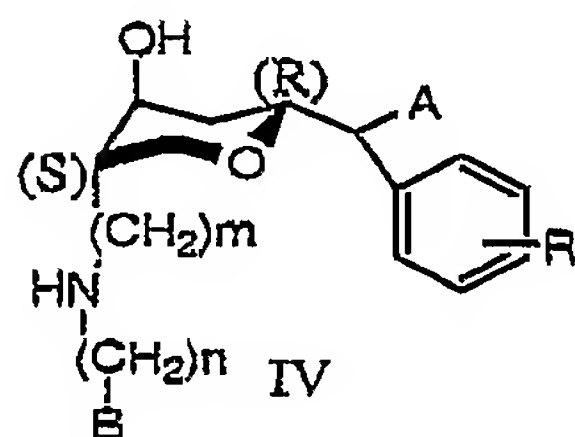
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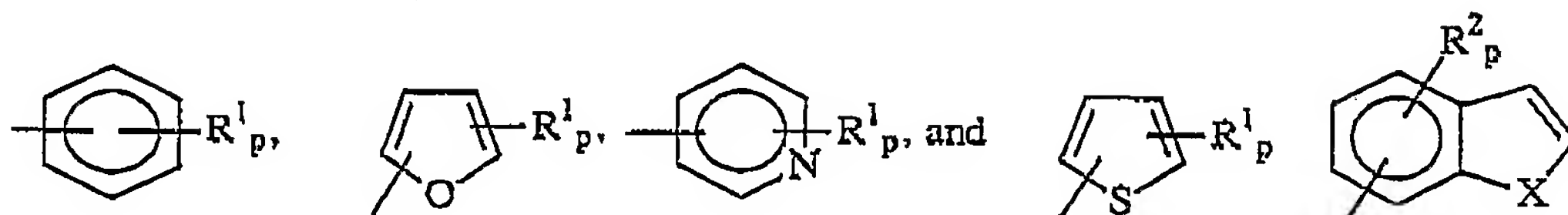


III



IV

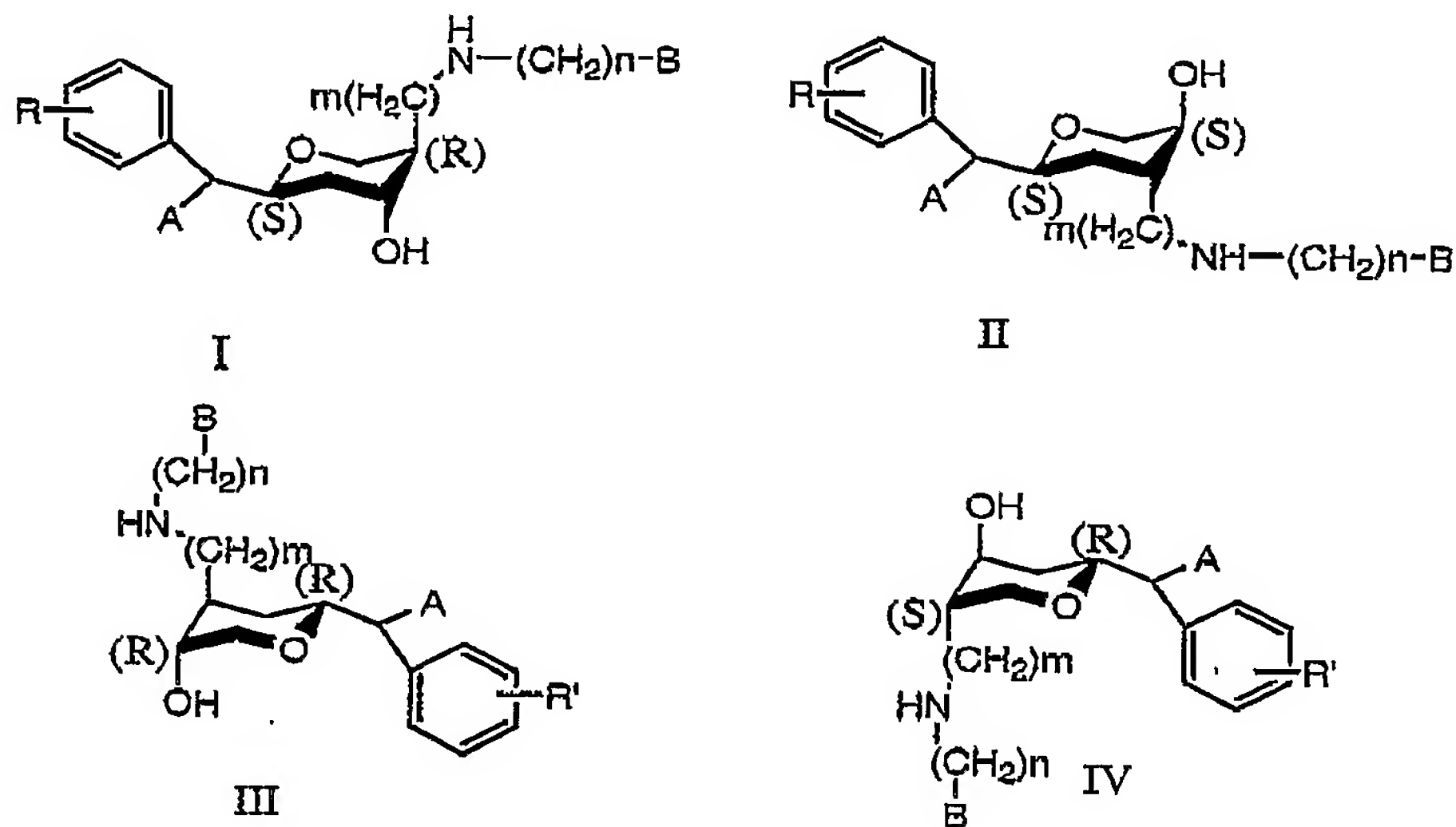
- 3    wherein B is selected from the  
 4    group



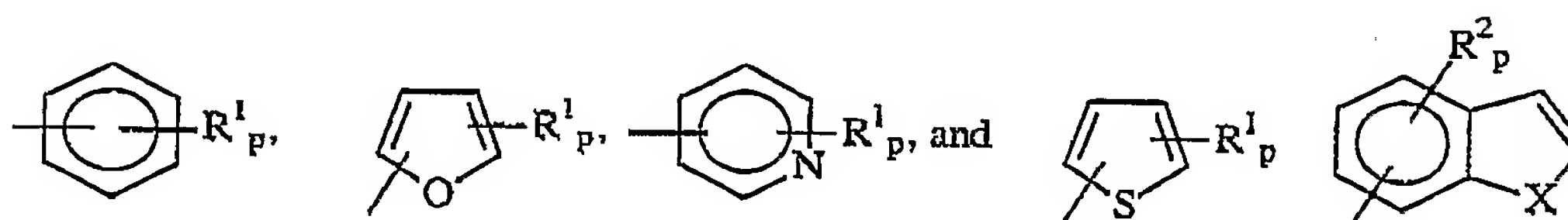
- 5    where  $R^1$  is selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$   
 6    optionally halogenated alkynyl,  $C_{2-6}$  hydroxyalkynyl, halo, -CN, -COOR, where R  
 7    is  $C_{1-18}$  alkyl,  $C_{5-10}$  cycloalkyl,  $C_{2-18}$  alkenyl, -OH, -NO<sub>2</sub>, -NH<sub>2</sub>, -OR<sup>2</sup> where R<sup>2</sup> is  $C_{1-8}$   
 8    alkyl,  $C_{3-6}$  cycloalkyl, or  $C_{2-8}$  alkenyl; and

9 wherein  $R^2$  have the meaning of  $R^1$  and also a 5 or 6 membered heterocycle  
 10 containing 1 or more heteroatoms selected from the group consisting of N, O, and  
 11 S, and wherein X is N, O, or S.

1 29. The compound of claim 27, having a formula selected from  
 2 the group consisting of:  
 3



4 wherein B is selected from the  
 5 group



6 where  $R^1$  is selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$   
 7 optionally halogenated alkynyl,  $C_{2-6}$  hydroxyalkynyl, halo, -CN, -COOR, where R

8 is C<sub>1-18</sub> alkyl, C<sub>5-10</sub> cycloalkyl, C<sub>2-18</sub> alkenyl, -OH, -NO<sub>2</sub>, -NH<sub>2</sub>, -OR<sup>2</sup> where R<sup>2</sup> is C<sub>1-8</sub>  
9 alkyl, C<sub>5-6</sub> cycloalkyl, or C<sub>2-8</sub> alkenyl; and  
10 wherein R<sup>2</sup> have the meaning of R<sup>1</sup> and also a 5 or 6 membered heterocycle  
11 containing 1 or more heteroatoms selected from the group consisting of N, O, and  
12 S, and wherein X is N, O, or S.